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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/388,829	09/01/1999	KENNETH J. KNIGHT	MSI-321US	4486

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EXAMINER

BURGESS, BARBARA N

ART UNIT	PAPER NUMBER
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2157

DATE MAILED: 06/20/2002

3

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/388,829

Applicant(s)

KNIGHT ET AL. *pk*

Examiner

Barbara N Burgess

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— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 September 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1 and 29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In considering claims 1 and 29, the limitation stating the following: "copying data from the staging cache of each web server to an active cache of the web server" is indefinite or mis-descriptive. It is not clear as to the active cache of which web server the data from the staging cache is copied.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5, 12, 14-19, 22, 29, 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strong et al. (hereinafter "Strong et al.", 5,689,688) in view of Undy et al. (hereinafter "Undy et al", 5,860,096).

As per claim 1, Strong discloses a method of synchronization among a plurality of nodes (web servers) in a network wherein each node is coupled to a common master node (data server) (column 2, lines 1-15, column 8, lines 40-45). Like the claimed servers, the nodes in Strong's

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synchronization method act as web servers in that they retrieve a synchronization message (scheduled activation time) from a commonly coupled master node. This master node act as a data server in which it is coupled to all nodes and it sends a synchronization message (column 5, lines 56-57, column 9, lines 51-58). Therefore, Strong implicitly discloses the use of web servers and a common data server.

However, Strong fails to explicitly disclose:

- Retrieving updated data into the staging caches in the plurality of web servers;
- Copying data from the staging cache of each web server to an active cache of each web server.

However, the use and advantages for retrieving data into the staging cache and copying data from the staging cache to an active cache is well known to one skilled in the relevant art at the time the invention was made as evidenced by the teachings of Undy.

Undy discloses a system with a synchronizing network comprising:

- Retrieving updated data into the staging cache (larger cache) (column 1, lines 20-22, 45-48, column 2, lines 10-13, column 5, lines 19-20);
- Copying data from the staging cache (larger cache) to an active cache (smaller cache) (column 3, lines 5-7, column 7, lines 1-2, column 5, lines 1-4).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to incorporate retrieving and copying data from the staging cache to an active cache in Strong's synchronization method allowing for data immediate accessibility at the scheduled activation time.

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As per claims 4, 19, and 31, Strong, in view of Undy, discloses copying data from the staging cache to an active cache (column 3, lines 5-7, column 7, lines 1-2, column 5, lines 1-4).

Therefore, Strong, in view of Undy, implicitly discloses copying data comprises swapping an active data cache pointer with a staged data cache pointer.

As per claims 5 and 32, Strong discloses an objective in which each node (web server) communicates with just the master node (data server) in order for synchronization to occur (column 2, lines 7-16). This method is called “handshaking”. Also, another objective Strong discloses is that of anonymous synchronization in which there is no “handshaking” (column 6, lines 53-64). Therefore, Strong implicitly discloses that no communications are required between the individual web servers (nodes) for synchronization to occur.

As per claims 12 and 22, Strong discloses a plurality of nodes (web servers) (column 5, lines 26-31). Therefore, Strong implicitly discloses a plurality of web servers (nodes) comprising a web farm.

Strong further discloses a method of synchronization comprising:

- Comparing time associated with a clock in each server to a time associated with a clock in the data server (master node) (column 1, lines 32-51, column 8, lines 40-43, column 9, lines 60-65);
- Adjusting the scheduled activation time on each server by the time difference between the clock in the server and the clock in the data server (column 2, lines 34-51, column 9, lines 65-67, column 10, lines 1-2, column 21, lines 4-13);
- Each server contains a clock wherein the clocks in the plurality of servers are not synchronized with one another (column 3, lines 10-13, column 5, lines 25-31, 35-38);

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- Computer-readable memories containing a computer program that is executable by a processor to perform the method (column 7, lines 36-51).

5. Claims 6 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strong et al. (hereinafter "Strong", 5,689,688) in view of Undy et al. (hereinafter "Undy et al", 5,860,096) and in further view of Hagersten et al. (hereinafter "Hagersten", 5,958,019).

As per claims 6 and 30, Strong in view of Undy fails to explicitly disclose retrieving updated data into staging caches of web servers performed asynchronously. However, the use and advantage for performing this operation asynchronously is well known to one skilled in the relevant art at the time the invention was made as evidenced by the teachings of Hagersten (column 2, lines 47-58, column 3, lines 19-23, column 28, lines 6-14, column 30, line 27).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement asynchronously updating data into the staging cache in Strong's, in view of Undy, method of synchronization in order alleviate the stalling and degradation of a system.

6. Claims 7 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strong et al. (hereinafter "Strong", 5,689,688) in view of Undy et al. (hereinafter "Undy et al", 5,860,096) and in further view of Yamazaki (hereinafter "Yamazaki", 5,923,855).

As per claims 7 and 20, Strong in view of Undy fails to explicitly disclose after the scheduled activation time, updating data caches in the data server. However, the use and advantage updating data caches in the data server after the scheduled activation time is well known to one skilled in the relevant art at the time the invention was made as evidenced by the teachings of Yamazaki (column 1, lines 19-24, column 5, lines 48-57).

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Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement updating data caches in the data server after scheduled activation in Strong's, in view of Undy, method of synchronization in order to maintain cache consistency.

7. Claims 8 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strong et al. (hereinafter "Strong", 5,689,688) in view of Undy et al. (hereinafter "Undy et al", 5,860,096) and in further view of Sakon.

As per claims 8 and 21, Strong, in view of Undy, fails to explicitly disclose calculating the next scheduled activation time. However, the use and advantage for scheduling the next activation time is well known to one skilled in the relevant art at the time the invention was made as evidenced by the teachings of Sakon (column 8, lines 25-40, 54-58).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement calculating the next scheduled activation time in Strong's, in view of Undy, method of synchronization in order for each web server to be aware of the next scheduled time of synchronization.

8. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strong et al. (hereinafter "Strong", 5,689,688) in view of Undy et al. (hereinafter "Undy et al", 5,860,096) and in further view of Woster et al. (hereinafter "Woster", 5,892,946).

As per claims 10 and 11, Strong, in view of Undy, fails to explicitly disclose copying data from active cache of data server to an active cache of the web server when the web server is added and initialized. However, the use and advantage for copying data to this web server is well known to one skilled in the relevant art at the time the invention was made as evidenced by

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the teachings of Woster (column 3, lines 49-51, 64-65, column 4, lines 10-12, column 11, lines 58-60, Figure 3).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement copying data from an active cache in the data server to an active cache in the web server when the web server is added and initialized in Strong's, in view of Undy, method of synchronization because this would update the added and initialized server with the most current data and prepare the data for the next scheduled activation time.

9. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Strong et al. (hereinafter "Strong", 5,689,688) in view of Undy et al. (hereinafter "Undy et al", 5,860,096) and in further view of Brendel et al. (hereinafter "Brendel", 5,774,660).

As per claim 13, Strong, in view of Undy, fails to explicitly disclose the plurality of web servers being load balanced using a domain name service (DNS) round-robin technique. However, the use and advantage for scheduling the next activation time is well known to one skilled in the relevant art at the time the invention was made as evidenced by the teachings of Brendel (column 3, lines 1-6).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement a DNS round-robin technique in Strong's, in view of Undy, method of synchronization in order to manage server congestion and distribute loads across multiple servers.

10. Claims 23- 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strong et al. (hereinafter "Strong", 5,689,688) in view of Undy et al. (hereinafter "Undy et al", 5,860,096)

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in further view of Yamazaki (hereinafter "Yamazaki", 5,923,855) in further view of Sakon and in further view of Woster et al. (hereinafter "Woster", 5,892,946).

As per claims 23-25, Strong discloses the following:

- Computer-readable memories containing a computer program that is executable by a processor to perform the method (column 7, lines 36-51);
- Retrieving a scheduled activation time from a data server (column 5, lines 56-57, column 9, lines 51-58);
- Comparing time associated with a clock in each server to a time associated with a clock in the data server (master node) (column 1, lines 32-51, column 8, lines 40-43, column 9, lines 60-65);
- Adjusting the scheduled activation time on each server by the time difference between the clock in the server and the clock in the data server (column 2, lines 34-51, column 9, lines 65-67, column 10, lines 1-2, column 21, lines 4-13);
- Each server contains a clock wherein the clocks in the plurality of servers are not synchronized with one another (column 3, lines 10-13, column 5, lines 25-31, 35-38);

However, Strong fails to explicitly disclose:

- Retrieving updated data into the staging caches in the plurality of web servers;
- Copying data from the staging cache of each web server to an active cache of each web server.

However, the use and advantages for retrieving data into the staging cache and copying data from the staging cache to an active cache is well known to one skilled in the relevant art at the time the invention was made as evidenced by the teachings of Undy.

Undy discloses a system with a synchronizing network comprising:

- Retrieving updated data into the staging cache (larger cache) (column 1, lines 20-22, 45-48, column 2, lines 10-13, column 5, lines 19-20);
- Copying data from the staging cache (larger cache) to an active cache (smaller cache) (column 3, lines 5-7, column 7, lines 1-2, column 5, lines 1-4).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to incorporate retrieving and copying data from the staging cache to an active cache in Strong's synchronization method allowing for data immediate accessibility at the scheduled activation time.

As per claims 23 and 26, Strong in view of Undy fails to explicitly disclose after the scheduled activation time, updating data caches in the data server. However, the use and advantage of updating data caches in the data server after the scheduled activation time is well known to one skilled in the relevant art at the time the invention was made as evidenced by the teachings of Yamazaki (column 1, lines 19-24, column 5, lines 48-57).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement updating data caches in the data server after scheduled activation in Strong's, in view of Undy, method of synchronization in order to maintain cache consistency.

As per claims 23 and 26, Strong, in view of Undy, in view of Yamazaki, fails to explicitly disclose calculating the next scheduled activation time. However, the use and advantage of calculating the next scheduled activation time is well known to one of ordinary skill in the relevant art at the time the invention was made as evidenced by the teachings of Sakon (column 8, lines 25-40, 54-58).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement calculating the next scheduled activation time in Strong's, in view of Undy, in view of Yamazaki, method of synchronization in order for each web server to be aware of the next scheduled time of synchronization.

As per claim 27, Strong, in view of Undy, in view of Yamazaki, in view of fails to explicitly disclose copying data from an active cache in the data server to the active cache in the web server when the web server is initialized.

However, the use and advantage for copying data to this web server is well known to one skilled in the relevant art at the time the invention was made as evidenced by the teachings of Woster (column 3, lines 49-51, 64-65, column 4, lines 10-12, column 11, lines 58-60, Figure 3).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement copying data from an active cache in the data server to an active cache in the web server when the web server is initialized in Strong's, in view of Undy, in view of Yamazaki, in view of Sakon, method of synchronization because this would update the initialized server with the most current data and prepare the data for the next scheduled activation time.

11. As per claim 28, Strong, in view of Undy, discloses copying data from the staging cache to an active cache (column 3, lines 5-7, column 7, lines 1-2, column 5, lines 1-4). Therefore, Strong, in view of Undy, implicitly discloses copying data comprises swapping an active data cache pointer with a staged data cache pointer.

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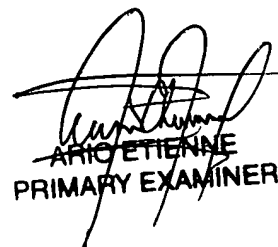
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barbara N Burgess whose telephone number is (703) 305-3366. The examiner can normally be reached on M-F (8:00am-4:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton B Burgess can be reached on (703) 305-4792. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7240 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Barbara N Burgess
Examiner
Art Unit 2153

June 13, 2002


ARIE ETIENNE
PRIMARY EXAMINER

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